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**BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA**

TECHNICAL MEMORANDUM

**IMPORT SOIL EVALUATION
USE OF SOIL SOURCE AA AS IMPORT TO PARCEL C**

To: Mr. Brian Mossman
Boeing Realty Corporation
3855 Lakewood Blvd.
Building 1A MC D001-0097
Long Beach, CA 90846

From: Haley & Aldrich, Inc.

Date: November 19, 2001

Re: Import Soil Evaluation, Use of Soil Source AA as Import to Parcel C, Boeing Realty Corporation, Former C-6 Facility – Parcel C, Los Angeles, California

Haley & Aldrich, Inc. is herein providing this technical memorandum to summarize our recommendations regarding the use of an identified potential soil source, herein referred to as Source AA, as import to Parcel C of the Boeing Realty Corporation's (BRC's) Former C-6 Facility in Los Angeles, California (subject parcel). Based on our review of the environmental information provided for the Source AA import soil, this soil may be used as fill soil on Parcel C.

OVERVIEW/PURPOSE

A source of soil (Source AA), totaling up to approximately 20,000 cubic yards, has been identified as potential import soil for use on Parcel C. Haley & Aldrich, Inc. personnel collected two soil samples and tested the samples in accordance with the protocol presented in the December 11, 2000 Import Soil Screening Program Plan prepared for Parcel C. This plan has been used as guidance to evaluate import soil from "offsite" sources. The criteria presented in the plan were then compared to the analytical results of the soil samples. The purpose of this technical memorandum is to present a summary of the evaluation of the Source AA soil and to provide recommendations for use as import for Parcel C.

LOCATION OF PROPOSED SOURCE AA IMPORT SOIL

The Source AA soil originated from the University of California at Los Angeles (UCLA) in proximity to medical research laboratories, the Life Sciences building and a parking garage in Los Angeles, California. The soil was generated during excavation activities for a 7-story medical research laboratory with subterranean parking. This property formerly contained two buildings that were part of Building 55, the Hospital Annex. These former buildings were reportedly used for offices and storage.

COMPARISON OF ANALYTICAL RESULTS TO IMPORT SOIL GUIDANCE CRITERIA

The laboratory report for the soil samples collected from the subject potential source is presented as Appendix A. Each sample was tested for metals, and various organic chemicals, including total petroleum hydrocarbons (TPH), polynuclear aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs). A review of the laboratory results indicates that the organic chemical results are within the site-specific import soil evaluation criteria presented in the December 11, 2000 Import Soil Screening Program Plan. VOCs, PAHs and TPH were not detected in the two soil samples, and their detection limits are consistent with the soil import criteria.

Several of the metals results are greater than the site-specific criteria, but are within the reported southern California background literature value criteria. Other metals are greater than the reported southern California background literature value criteria, and are identified in bold in Table 1. The remaining metals on the analyte list are within the import soil criteria.

Table 1. Summary of Metals Results Greater Than Site-Specific Import Soil Criteria and Associated Site-Specific and Southern California Import Soil Criteria

Sample Identification	Chemical	Reported Concentration (mg/kg)	Site-Specific Import Soil Criterion (mg/kg)	Maximum Regional (Southern California) Background Criterion (mg/kg)
Source_AA_102901_1_10	Arsenic	11	8	15.2
	Beryllium	0.55	< 0.5	1.2
	Cobalt	9.7	9.4	23.2
	Copper	21.7	20	54
	Molybdenum	2.9	< 1	1.4
	Nickel	29	18	28.2
	Selenium	1.2	0.43	0.43
	Thallium	1.4	< 0.5	35
	Vanadium	67.2	38	84.8
	Zinc			
Source_AA_102901_1_20	Arsenic	9.2	8	15.2
	Beryllium	0.62	< 0.5	1.2
	Chromium	39.3	39	32.6
	Copper	25	20	54
	Molybdenum	3.2	< 1	1.4
	Nickel	31.6	18	28.2
	Selenium	1.2	0.43	0.43
	Thallium	0.88 B	< 0.5	35
	Vanadium	75.8	38	84.8
	Zinc	70	64	247

Appendix A

RECOMMENDATIONS FOR USE AS IMPORT SOIL

It is recommended that the subject approximately 20,000 cubic yards of soils comprising Source AA be used as fill soil on Parcel C. The reported soil concentrations for organic compounds are consistent with the site-specific criteria, and those for inorganic chemicals are consistent with the site-specific and/or southern California background criteria, with the exception of chromium, molybdenum, nickel, and selenium. The relatively narrow range of the reported concentrations of these metals in the samples tested suggest that they are representative of background metals concentrations for the general geographic region from which these soils originated. In addition, the property from which the Source AA soils originated has not been used for industrial activities, and typical indicators of contamination (e.g., discoloration, odors) were neither present in the samples nor observed while sampling these soils. The concentrations of chromium, molybdenum, and nickel are also consistent with sample results collected from other apparently non-impacted potential import soils identified in Los Angeles, California during the search for acceptable import soil for Parcel C. Thus, the reported concentrations above the southern California background criterion are not considered to be a result of chemical contamination.

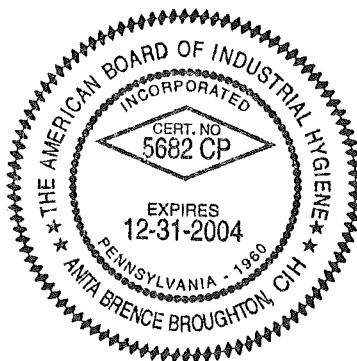
Sincerely yours,
HALEY & ALDRICH, INC.



Anita Broughton, CIH
Risk Assessment Task Manager



Scott Zachary
Project Manager



Attachments:

Appendix A Laboratory Report

APPENDIX A

LABORATORY REPORT



SEVERN
TRENT
SERVICES

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705-4808

October 31, 2001

STL LOT NUMBER: E1J290222
NELAP Certification Number: 01118CA
PO/CONTRACT: 05160-SEV002-S56

Tel: 714 258 8610
Fax: 714 258 0921
www.stl-inc.com

Scott Zachary
Haley & Aldrich Inc
9040 Friars Road
Suite 220
San Diego, CA 92108

Dear Mr. Zachary,

This report contains the analytical results for the two samples received under chain of custody by STL Los Angeles on October 29, 2001. These samples are associated with your BRC former C-6 Torrance Harbor Gateway project.

All applicable quality control procedures met method-specified acceptance criteria. See Project Receipt Checklist for container temperature and conditions. Temperature reading between 2 to 6 degrees Celsius is considered within acceptable criteria. Any matrix related anomaly is footnoted within the report: The PAHs by 8310 analysis was performed by Del Mar Analytical. See attached report for any related anomaly.

STL Los Angeles certifies that the tests performed at our facility meet all NELAP requirements for parameters for which accreditation is required or available. The case narrative is an integral part of the report. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions, please feel free to call me at (714) 258-8610 extension 309.

Sincerely,



Diane Suzuki
Project Manager

CC: Project File

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Page 1 of _____ total pages in this report.

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STL Los Angeles is a part of Severn Trent Laboratories, Inc.



**STL LOS ANGELES
PROJECT RECEIPT CHECKLIST**

Quantms Lot #: EJ 240223
Client Name: Haley & Aldrich
Received by: Receiv'd
Delivered by : Client Airborne Fed Ex
 UPS DES Other

Date: 10/29/01

Quote #: 42295
Project: BOEING C-6
Date/Time Received: 10/29/01 21:44
 DHL In-House Courier Rey B.

Custody Seal Status: Intact Broken None 10/10/2015

Custody Seal #(s): _____ No Seal #

Sample Container(s): STL-LA Client N/A

Temperature(s) (Cooler/blank) in °C: 85 Correction factor -3°C (Corrected Temp.)

Thermometer Used : ID: A IR (Infra-red) Digital (Probe)

Samples: Intact Broken Other _____

Anomalies: No Yes (See Clouseau)

Labeled by _____

Labeling checked by : _____

...you can't just say your final four words.

Turn Around Time: RUSH-24HR RUSH-48HR RUSH-72HR NORMAL

Short-Hold Notification: Ph Wet Chem Metals (Filter/Pres) Encore N/A ...

Outside Analysis(es) (Test/Lab/Date Sent Out): *PAH to Orl M*

11111 paper trail

.....

.....

***** LEAVE NO BLANK SPACES : USE N/A *****

h:HCl na:Sodium Hydroxide znna:Zinc Acetate/Sodium Hydroxide s:H2SO4 n:HNO3 filtered n/f:HNO3-Field filtered n/l:HNO3-Lab filtered

CGJ:Clear Glass Jar	CGB:Clear Glass Bottle	AGJ:Amber Glass Jar	AGB:Amber Glass Bottle	PB: Poly Bottle	E:Encore Sampler	V:VOA	SL:Sleeve
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* Number of VOA's w/ Headspace present

LOGGED BY/DATE: 10/29/01 - REVIEWED BY/DATE:

PRG Ver. 6 041401 KRF

**HALEY &
ALDRICH**

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SEVERN
TRENT
SERVICES

Analytical Report

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EXECUTIVE SUMMARY - Detection Highlights

E1J290222

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SOURCE_AA_102901_1_10 10/29/01 13:00	001			
Aluminum	14900	20.0	mg/kg	SW846 6010B
Arsenic	11.0	1.0	mg/kg	SW846 6010B
Barium	111	2.0	mg/kg	SW846 6010B
Cadmium	0.16 B	0.50	mg/kg	SW846 6010B
Chromium	35.4 J	1.0	mg/kg	SW846 6010B
Beryllium	0.55	0.50	mg/kg	SW846 6010B
Lead	4.4	0.50	mg/kg	SW846 6010B
Selenium	1.2	0.50	mg/kg	SW846 6010B
Cobalt	9.7	5.0	mg/kg	SW846 6010B
Copper	21.7	2.5	mg/kg	SW846 6010B
Molybdenum	2.9 B	4.0	mg/kg	SW846 6010B
Nickel	29.0	4.0	mg/kg	SW846 6010B
Thallium	1.4	1.0	mg/kg	SW846 6010B
Vanadium	67.2	5.0	mg/kg	SW846 6010B
Zinc	59.7	2.0	mg/kg	SW846 6010B
SOURCE_AA_102901_2_20 10/29/01 13:00	002			
Aluminum	15900	20.0	mg/kg	SW846 6010B
Arsenic	9.2	1.0	mg/kg	SW846 6010B
Barium	112	2.0	mg/kg	SW846 6010B
Cadmium	0.25 B	0.50	mg/kg	SW846 6010B
Chromium	39.3 J	1.0	mg/kg	SW846 6010B
Beryllium	0.62	0.50	mg/kg	SW846 6010B
Lead	4.0	0.50	mg/kg	SW846 6010B
Selenium	1.2	0.50	mg/kg	SW846 6010B
Cobalt	7.8	5.0	mg/kg	SW846 6010B
Copper	25.0	2.5	mg/kg	SW846 6010B
Molybdenum	3.2 B	4.0	mg/kg	SW846 6010B
Nickel	31.6	4.0	mg/kg	SW846 6010B
Thallium	0.88 B	1.0	mg/kg	SW846 6010B
Vanadium	75.8	5.0	mg/kg	SW846 6010B
Zinc	70.0	2.0	mg/kg	SW846 6010B

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METHODS SUMMARY

EIJ290222

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Extractable Petroleum Hydrocarbons	SW846 8015B	SANA AUTO-SHAKE
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Volatile Organics by GC/MS	SW846 8260B	SW846 5030
Volatile Petroleum Hydrocarbons	SW846 8015B	SW846 5030

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

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SAMPLE SUMMARY

E1J290222

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
EM194	001	SOURCE_AA_102901_1_10	10/29/01	13:00
EM197	002	SOURCE_AA_102901_2_20	10/29/01	13:00

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

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HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_1_10

GC Semivolatiles

Lot-Sample #....: E1J290222-001 Work Order #....: EM1941AA Matrix.....: SOLID
 Date Sampled....: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1303101
 Prep Date.....: 10/30/01 Analysis Date...: 10/30/01
 Prep Batch #....: 1303245 Analysis Time..: 21:51
 Dilution Factor: 1
 Analyst ID.....: 356074 Instrument ID...: G02
 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	ND	10	mg/kg	5.0
C28-C31	ND	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	ND	10	mg/kg	5.0
<u>SURROGATE</u>		<u>PERCENT</u>	<u>RECOVERY</u>	
Benzo (a) pyrene		84	LIMITS (60 - 130)	

000008



HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_1_10

GC Volatiles

Lot-Sample #....: E1J290222-001 Work Order #....: EM1941AC Matrix.....: SOLID
Date Sampled....: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1303118
Prep Date.....: 10/30/01 Analysis Date...: 10/30/01
Prep Batch #....: 1303279 Analysis Time...: 10:47
Dilution Factor: 1
Analyst ID.....: 001464 Instrument ID...: G16
Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
C6-C8	ND	1.0	mg/kg	0.10
SURROGATE	PERCENT	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene (TFT)	RECOVERY 76	(60 - 130)		

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HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_1_10

GC/MS Volatiles

Lot-Sample #....: E1J290222-001 Work Order #....: EM1941AD Matrix.....: SOLID
 Date Sampled....: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1305137
 Prep Date.....: 10/31/01 Analysis Date...: 10/31/01
 Prep Batch #....: 1305331 Analysis Time...: 11:35
 Dilution Factor: 1
 Analyst ID.....: 999998 Instrument ID...: MSD
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Dichlorodifluoromethane	ND	10	ug/kg	1.0
Chloromethane	ND	10	ug/kg	3.0
Vinyl chloride	ND	10	ug/kg	2.0
Bromomethane	ND	10	ug/kg	2.0
1,2-Dibromoethane	ND	5.0	ug/kg	3.0
Chloroethane	ND	10	ug/kg	2.0
Trichlorofluoromethane	ND	10	ug/kg	2.0
Acrolein	ND	100	ug/kg	30
1,1-Dichloroethene	ND	5.0	ug/kg	2.0
Iodomethane	ND	10	ug/kg	5.0
Acetone	ND	25	ug/kg	15
Carbon disulfide	ND	5.0	ug/kg	2.0
Methylene chloride	ND	5.0	ug/kg	3.0
trans-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
Acrylonitrile	ND	100	ug/kg	30
Methyl tert-butyl ether	ND	5.0	ug/kg	1.0
1,1-Dichloroethane	ND	5.0	ug/kg	1.0
Vinyl acetate	ND	10	ug/kg	5.0
2,2-Dichloropropane	ND	5.0	ug/kg	2.0
cis-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
2-Butanone	ND	25	ug/kg	15
Bromochloromethane	ND	5.0	ug/kg	1.0
Chloroform	ND	5.0	ug/kg	1.0
Tetrahydrofuran	ND	20	ug/kg	10
1,1,1-Trichloroethane	ND	5.0	ug/kg	1.0
1,1-Dichloropropene	ND	5.0	ug/kg	1.0
Carbon tetrachloride	ND	5.0	ug/kg	1.0
Benzene	ND	5.0	ug/kg	2.0
1,2-Dichloroethane	ND	5.0	ug/kg	1.0
Trichloroethene	ND	5.0	ug/kg	2.0
1,2-Dichloropropane	ND	5.0	ug/kg	1.0
Bromodichloromethane	ND	5.0	ug/kg	1.0
2-Chloroethyl vinyl ether	ND	10	ug/kg	5.0
cis-1,3-Dichloropropene	ND	5.0	ug/kg	1.0
4-Methyl-2-pentanone	ND	25	ug/kg	10
Toluene	ND	5.0	ug/kg	2.0
trans-1,3-Dichloropropene	ND	5.0	ug/kg	3.0

(Continued on next page)

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HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_1_10

GC/MS Volatiles

Lot-Sample #...: E1J290222-001 Work Order #...: EM1941AD Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2-Trichloroethane	ND	5.0	ug/kg	3.0
Tetrachloroethene	ND	5.0	ug/kg	2.0
2-Hexanone	ND	25	ug/kg	10
Dibromochloromethane	ND	5.0	ug/kg	5.0
Chlorobenzene	ND	5.0	ug/kg	2.0
Ethylbenzene	ND	5.0	ug/kg	2.0
Xylenes (total)	ND	5.0	ug/kg	3.0
Styrene	ND	10	ug/kg	2.0
Bromoform	ND	5.0	ug/kg	3.0
Isopropylbenzene	ND	5.0	ug/kg	2.0
p-Isopropyltoluene	ND	5.0	ug/kg	2.0
Bromobenzene	ND	5.0	ug/kg	2.0
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,2,3-Trichloropropane	ND	5.0	ug/kg	3.0
n-Propylbenzene	ND	5.0	ug/kg	2.0
2-Chlorotoluene	ND	5.0	ug/kg	2.0
4-Chlorotoluene	ND	5.0	ug/kg	2.0
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	2.0
tert-Butylbenzene	ND	5.0	ug/kg	2.0
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	2.0
sec-Butylbenzene	ND	5.0	ug/kg	2.0
1,3-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,4-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,2-Dichlorobenzene	ND	5.0	ug/kg	2.0
n-Butylbenzene	ND	5.0	ug/kg	2.0
1,2-Dibromo-3-chloro-propane	ND	10	ug/kg	3.0
1,2,4-Trichloro-benzene	ND	5.0	ug/kg	2.0
Hexachlorobutadiene	ND	5.0	ug/kg	2.0
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	2.0
t-Butanol	ND	100	ug/kg	50
Isopropyl ether	ND	10	ug/kg	1.0
Tert-amyl methyl ether	ND	10	ug/kg	2.0
Tert-butyl ethyl ether	ND	10	ug/kg	1.0
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Bromofluorobenzene	81	(70 - 130)		
1,2-Dichloroethane-d4	90	(60 - 140)		
Toluene-d8	82	(70 - 130)		

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HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_1_10

GC/MS Volatiles

Lot-Sample #....: E1J290222-001 Work Order #....: EM1941AD Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2-Trichloroethane	ND	5.0	ug/kg	3.0
Tetrachloroethene	ND	5.0	ug/kg	2.0
2-Hexanone	ND	25	ug/kg	10
Dibromochloromethane	ND	5.0	ug/kg	5.0
Chlorobenzene	ND	5.0	ug/kg	2.0
Ethylbenzene	ND	5.0	ug/kg	2.0
Xylenes (total)	ND	5.0	ug/kg	3.0
Styrene	ND	1.0	ug/kg	2.0
Bromoform	ND	5.0	ug/kg	3.0
Isopropylbenzene	ND	5.0	ug/kg	2.0
p-Isopropyltoluene	ND	5.0	ug/kg	2.0
Bromobenzene	ND	5.0	ug/kg	2.0
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,2,3-Trichloropropane	ND	5.0	ug/kg	3.0
n-Propylbenzene	ND	5.0	ug/kg	2.0
2-Chlorotoluene	ND	5.0	ug/kg	2.0
4-Chlorotoluene	ND	5.0	ug/kg	2.0
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	2.0
tert-Butylbenzene	ND	5.0	ug/kg	2.0
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	2.0
sec-Butylbenzene	ND	5.0	ug/kg	2.0
1,3-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,4-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,2-Dichlorobenzene	ND	5.0	ug/kg	2.0
n-Butylbenzene	ND	5.0	ug/kg	2.0
1,2-Dibromo-3-chloro-propane	ND	10	ug/kg	3.0
1,2,4-Trichloro-benzene	ND	5.0	ug/kg	2.0
Hexachlorobutadiene	ND	5.0	ug/kg	2.0
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	2.0
t-Butanol	ND	100	ug/kg	50
Isopropyl ether	ND	10	ug/kg	1.0
Tert-amyl methyl ether	ND	10	ug/kg	2.0
Tert-butyl ethyl ether	ND	10	ug/kg	1.0
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Bromofluorobenzene	81	(70 - 130)		
1,2-Dichloroethane-d4	90	(60 - 140)		
Toluene-d8	82	(70 - 130)		

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HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_2_20

GC Semivolatiles

Lot-Sample #....: E1J290222-002 Work Order #....: EM1971AD Matrix.....: SOLID
 Date Sampled....: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1303101
 Prep Date.....: 10/30/01 Analysis Date...: 10/30/01
 Prep Batch #....: 1303245 Analysis Time...: 23:48
 Dilution Factor: 1
 Analyst ID.....: 356074 Instrument ID...: G02
 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	ND	10	mg/kg	5.0
C28-C31	ND	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	ND	10	mg/kg	5.0
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
		(60 - 130)		
Benzo (a) pyrene	78			

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HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_2_20

GC Semivolatiles

Lot-Sample #....: E1J290222-002 Work Order #....: EM1971AD Matrix.....: SOLID
 Date Sampled....: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1303101
 Prep Date.....: 10/30/01 Analysis Date...: 10/30/01
 Prep Batch #....: 1303245 Analysis Time...: 23:48
 Dilution Factor: 1
 Analyst ID.....: 356074 Instrument ID...: G02
 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	ND	10	mg/kg	5.0
C28-C31	ND	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	ND	10	mg/kg	5.0
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
		(60 - 130)		
Benzo (a) pyrene	78			

000012



HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_2_20

GC Volatiles

Lot-Sample #....: E1J290222-002 Work Order #....: EM1971AE Matrix.....: SOLID
Date Sampled....: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1303118
Prep Date.....: 10/30/01 Analysis Date...: 10/30/01
Prep Batch #....: 1303279 Analysis Time...: 11:16
Dilution Factor: 1
Analyst ID.....: 001464 Instrument ID...: G16
Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
C6-C8	ND	1.0	mg/kg	0.10
SURROGATE	PERCENT	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene (TFT)	75	(60 - 130)		

000013



HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_2_20

GC/MS Volatiles

Lot-Sample #....: E1J290222-002 Work Order #....: EM1971AF Matrix.....: SOLID
 Date Sampled....: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1305137
 Prep Date.....: 10/31/01 Analysis Date...: 10/31/01
 Prep Batch #....: 1305331 Analysis Time...: 12:06
 Dilution Factor: 1
 Analyst ID.....: 999998 Instrument ID...: MSD
 Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Dichlorodifluoromethane	ND	1.0	ug/kg	1.0
Chloromethane	ND	1.0	ug/kg	3.0
Vinyl chloride	ND	1.0	ug/kg	2.0
Bromomethane	ND	1.0	ug/kg	2.0
1,2-Dibromoethane	ND	5.0	ug/kg	3.0
Chloroethane	ND	1.0	ug/kg	2.0
Trichlorofluoromethane	ND	1.0	ug/kg	2.0
Acrolein	ND	100	ug/kg	30
1,1-Dichloroethene	ND	5.0	ug/kg	2.0
Iodomethane	ND	1.0	ug/kg	5.0
Acetone	ND	25	ug/kg	15
Carbon disulfide	ND	5.0	ug/kg	2.0
Methylene chloride	ND	5.0	ug/kg	3.0
trans-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
Acrylonitrile	ND	100	ug/kg	30
Methyl tert-butyl ether	ND	5.0	ug/kg	1.0
1,1-Dichloroethane	ND	5.0	ug/kg	1.0
Vinyl acetate	ND	1.0	ug/kg	5.0
2,2-Dichloropropane	ND	5.0	ug/kg	2.0
cis-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
2-Butanone	ND	25	ug/kg	15
Bromochloromethane	ND	5.0	ug/kg	1.0
Chloroform	ND	5.0	ug/kg	1.0
Tetrahydrofuran	ND	20	ug/kg	10
1,1,1-Trichloroethane	ND	5.0	ug/kg	1.0
1,1-Dichloropropene	ND	5.0	ug/kg	1.0
Carbon tetrachloride	ND	5.0	ug/kg	1.0
Benzene	ND	5.0	ug/kg	2.0
1,2-Dichloroethane	ND	5.0	ug/kg	1.0
Trichloroethene	ND	5.0	ug/kg	2.0
1,2-Dichloropropane	ND	5.0	ug/kg	1.0
Bromodichloromethane	ND	5.0	ug/kg	1.0
2-Chloroethyl vinyl ether	ND	1.0	ug/kg	5.0
cis-1,3-Dichloropropene	ND	5.0	ug/kg	1.0
4-Methyl-2-pentanone	ND	25	ug/kg	10
Toluene	ND	5.0	ug/kg	2.0
trans-1,3-Dichloropropene	ND	5.0	ug/kg	3.0

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000014



HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_2_20

GC/MS Volatiles

Lot-Sample #...: E1J290222-002 Work Order #...: EM1971AF Matrix.....: SOLID

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2-Trichloroethane	ND	5.0	ug/kg	3.0,
Tetrachloroethene	ND	5.0	ug/kg	2.0
2-Hexanone	ND	25	ug/kg	10
Dibromochloromethane	ND	5.0	ug/kg	5.0
Chlorobenzene	ND	5.0	ug/kg	2.0
Ethylbenzene	ND	5.0	ug/kg	2.0
Xylenes (total)	ND	5.0	ug/kg	3.0
Styrene	ND	10	ug/kg	2.0
Bromoform	ND	5.0	ug/kg	3.0
Isopropylbenzene	ND	5.0	ug/kg	2.0
p-Isopropyltoluene	ND	5.0	ug/kg	2.0
Bromobenzene	ND	5.0	ug/kg	2.0
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,2,3-Trichloropropane	ND	5.0	ug/kg	3.0
n-Propylbenzene	ND	5.0	ug/kg	2.0
2-Chlorotoluene	ND	5.0	ug/kg	2.0
4-Chlorotoluene	ND	5.0	ug/kg	2.0
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	2.0
tert-Butylbenzene	ND	5.0	ug/kg	2.0
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	2.0
sec-Butylbenzene	ND	5.0	ug/kg	2.0
1,3-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,4-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,2-Dichlorobenzene	ND	5.0	ug/kg	2.0
n-Butylbenzene	ND	5.0	ug/kg	2.0
1,2-Dibromo-3-chloro-propane	ND	10	ug/kg	3.0
1,2,4-Trichloro-benzene	ND	5.0	ug/kg	2.0
Hexachlorobutadiene	ND	5.0	ug/kg	2.0
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	2.0
t-Butanol	ND	100	ug/kg	50
Isopropyl ether	ND	10	ug/kg	1.0
Tert-amyl methyl ether	ND	10	ug/kg	2.0
Tert-butyl ethyl ether	ND	10	ug/kg	1.0
SURROGATE		PERCENT RECOVERY	RECOVERY LIMITS	
Bromofluorobenzene	81	(70 - 130)		
1,2-Dichloroethane-d4	85	(60 - 140)		
Toluene-d8	82	(70 - 130)		

000015



HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_1_10

TOTAL Metals

Lot-Sample #....: E1J290222-001

Date Sampled...: 10/29/01 13:00 Date Received...: 10/29/01 21:00

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Prep Batch #....: 1303268							
Aluminum	14900	20.0	mg/kg	SW846 6010B	10/31/01	EM1941AF	
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 8.0		
Arsenic	11.0	1.0	mg/kg	SW846 6010B	10/31/01	EM1941AG	
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.40		
Antimony	ND	6.0	mg/kg	SW846 6010B	10/31/01	EM1941AH	
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.60		
Barium	111	2.0	mg/kg	SW846 6010B	10/31/01	EM1941AJ	
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.10		
Cadmium	0.16 B	0.50	mg/kg	SW846 6010B	10/31/01	EM1941AK	
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.060		
Chromium	35.4 J	1.0	mg/kg	SW846 6010B	10/31/01	EM1941AL	
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.10		
Beryllium	0.55	0.50	mg/kg	SW846 6010B	10/31/01	EM1941AM	
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.050		
Lead	4.4	0.50	mg/kg	SW846 6010B	10/31/01	EM1941AN	
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.30		
Selenium	1.2	0.50	mg/kg	SW846 6010B	10/31/01	EM1941AP	
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.40		

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000016



HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_1_10

TOTAL Metals

Lot-Sample #...: E1J290222-001

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ORDER #
		LIMIT	UNITS					
Silver	ND	1.0	mg/kg		SW846 6010B	10/31/01		EM1941AQ
		Dilution Factor: 1			Analysis Time...: 17:22		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.10
Cobalt	9.7	5.0	mg/kg		SW846 6010B	10/31/01		EM1941AR
		Dilution Factor: 1			Analysis Time...: 17:22		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.10
Copper	21.7	2.5	mg/kg		SW846 6010B	10/31/01		EM1941AT
		Dilution Factor: 1			Analysis Time...: 17:22		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.40
Molybdenum	2.9 B	4.0	mg/kg		SW846 6010B	10/31/01		EM1941AU
		Dilution Factor: 1			Analysis Time...: 17:22		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.30
Nickel	29.0	4.0	mg/kg		SW846 6010B	10/31/01		EM1941AV
		Dilution Factor: 1			Analysis Time...: 17:22		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.30
Thallium	1.4	1.0	mg/kg		SW846 6010B	10/31/01		EM1941AW
		Dilution Factor: 1			Analysis Time...: 17:22		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.80
Vanadium	67.2	5.0	mg/kg		SW846 6010B	10/31/01		EM1941AX
		Dilution Factor: 1			Analysis Time...: 17:22		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.10
Zinc	59.7	2.0	mg/kg		SW846 6010B	10/31/01		EM1941AO
		Dilution Factor: 1			Analysis Time...: 17:22		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	1.0

Prep Batch #...: 1303270

Mercury	ND	0.10	mg/kg	SW846 7471A	10/30-10/31/01	EM1941A1
		Dilution Factor: 1		Analysis Time...: 13:07	Analyst ID.....:	0000231
		Instrument ID...: M04		MS Run #.....: 1303112	MDL.....:	0.020

NOTE (S) :

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

000017



HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_2_20

TOTAL Metals

Lot-Sample #....: E1J290222-002
 Date Sampled...: 10/29/01 13:00 Date Received...: 10/29/01 21:00 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION->	WORK ANALYSIS DATE	ORDER #
Prep Batch #....: 1303268							
Aluminum	15900	20.0	mg/kg	SW846 6010B	10/31/01	EM1971AH	
		Dilution Factor: 1		Analysis Time...: 18:00	Analyst ID.....: 021088		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 8.0		
Arsenic	9.2	1.0	mg/kg	SW846 6010B	10/31/01	EM1971AJ	
		Dilution Factor: 1		Analysis Time...: 18:00	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.40		
Antimony	ND	6.0	mg/kg	SW846 6010B	10/31/01	EM1971AK	
		Dilution Factor: 1		Analysis Time...: 18:00	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.60		
Barium	112	2.0	mg/kg	SW846 6010B	10/31/01	EM1971AL	
		Dilution Factor: 1		Analysis Time...: 18:00	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.10		
Cadmium	0.25 B	0.50	mg/kg	SW846 6010B	10/31/01	EM1971AM	
		Dilution Factor: 1		Analysis Time...: 18:00	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.060		
Chromium	39.3 J	1.0	mg/kg	SW846 6010B	10/31/01	EM1971AN	
		Dilution Factor: 1		Analysis Time...: 18:00	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.10		
Beryllium	0.62	0.50	mg/kg	SW846 6010B	10/31/01	EM1971AP	
		Dilution Factor: 1		Analysis Time...: 18:00	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.050		
Lead	4.0	0.50	mg/kg	SW846 6010B	10/31/01	EM1971AQ	
		Dilution Factor: 1		Analysis Time...: 18:00	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.30		
Selenium	1.2	0.50	mg/kg	SW846 6010B	10/31/01	EM1971AR	
		Dilution Factor: 1		Analysis Time...: 18:00	Analyst ID.....: 0210881		
		Instrument ID...: M01		MS Run #.....: 1303111	MDL.....: 0.40		

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000018



HALEY & ALDRICH INC

Client Sample ID: SOURCE_AA_102901_2_20

TOTAL Metals

Lot-Sample #....: E1J290222-002

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ORDER #
		LIMIT	UNITS					
Silver	ND	1.0	mg/kg		SW846 6010B	10/31/01		EM1971AT
		Dilution Factor: 1			Analysis Time...: 18:00		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.10
Cobalt	7.8	5.0	mg/kg		SW846 6010B	10/31/01		EM1971AU
		Dilution Factor: 1			Analysis Time...: 18:00		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.10
Copper	25.0	2.5	mg/kg		SW846 6010B	10/31/01		EM1971AV
		Dilution Factor: 1			Analysis Time...: 18:00		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.40
Molybdenum	3.2 B	4.0	mg/kg		SW846 6010B	10/31/01		EM1971AW
		Dilution Factor: 1			Analysis Time...: 18:00		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.30
Nickel	31.6	4.0	mg/kg		SW846 6010B	10/31/01		EM1971AX
		Dilution Factor: 1			Analysis Time...: 18:00		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.30
Thallium	0.88 B	1.0	mg/kg		SW846 6010B	10/31/01		EM1971A0
		Dilution Factor: 1			Analysis Time...: 18:00		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.80
Vanadium	75.8	5.0	mg/kg		SW846 6010B	10/31/01		EM1971AL
		Dilution Factor: 1			Analysis Time...: 18:00		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	0.10
Zinc	70.0	2.0	mg/kg		SW846 6010B	10/31/01		EM1971AA
		Dilution Factor: 1			Analysis Time...: 18:00		Analyst ID.....:	0210881
		Instrument ID...: M01			MS Run #.....: 1303111		MDL.....:	1.0
Prep Batch #....: 1303270								
Mercury	ND	0.10	mg/kg		SW846 7471A	10/30-10/31/01		EM1971AC
		Dilution Factor: 1			Analysis Time...: 13:12		Analyst ID.....:	0000231
		Instrument ID...: M04			MS Run #.....: 1303112		MDL.....:	0.020

NOTE (S) :

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

000019



SEVERN
TRENT
SERVICES

QA/QC

000020



QC DATA ASSOCIATION SUMMARY

E1J290222

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 8015B		1303245	1303101
	SOLID	SW846 8015B		1303279	1303118
	SOLID	SW846 7471A		1303270	1303112
	SOLID	SW846 8260B		1305331	1305137
	SOLID	SW846 6010B		1303268	1303111
002	SOLID	SW846 8015B		1303245	1303101
	SOLID	SW846 8015B		1303279	1303118
	SOLID	SW846 7471A		1303270	1303112
	SOLID	SW846 8260B		1305331	1305137
	SOLID	SW846 6010B		1303268	1303111

000021



METHOD BLANK REPORT

GC Semivolatiles

Client Lot #....: E1J290222 Work Order #....: EM2XL1AA Matrix.....: SOLID
 MB Lot-Sample #: E1J300000-245
 Analysis Date...: 10/30/01 Prep Date.....: 10/30/01 Analysis Time...: 20:33
 Dilution Factor: 1 Prep Batch #: 1303245 Instrument ID...: G02
 Analyst ID.....: 356074

<u>PARAMETER</u>	<u>REPORTING</u>			
	<u>RESULT</u>	<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
C8-C9	ND	10	mg/kg	SW846 8015B
C10-C11	ND	10	mg/kg	SW846 8015B
C12-C13	ND	10	mg/kg	SW846 8015B
C14-C15	ND	10	mg/kg	SW846 8015B
C16-C17	ND	10	mg/kg	SW846 8015B
C18-C19	ND	10	mg/kg	SW846 8015B
C20-C23	ND	10	mg/kg	SW846 8015B
C24-C27	ND	10	mg/kg	SW846 8015B
C28-C31	ND	10	mg/kg	SW846 8015B
C32-C35	ND	10	mg/kg	SW846 8015B
C36-C39	ND	10	mg/kg	SW846 8015B
C40+	ND	10	mg/kg	SW846 8015B
Total Carbon Chain Range	ND	10	mg/kg	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Benzo (a) pyrene	95	(60 - 130)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

000022



METHOD BLANK REPORT

GC Volatiles

Client Lot #....: E1J290222 Work Order #....: EM28X1AA Matrix.....: SOLID
MB Lot-Sample #: E1J300000-279
Analysis Date...: 10/29/01 Prep Date.....: 10/29/01 Analysis Time..: 15:28
Dilution Factor: 1 Prep Batch #: 1303279 Instrument ID.: G16
Analyst ID.....: 001464

PARAMETER	REPORTING			METHOD
	RESULT	LIMIT	UNITS	
C6-C8	ND	1.0	mg/kg	SW846 8015B
SURROGATE	RECOVERY			
a,a,a-Trifluorotoluene (TFT)	PERCENT RECOVERY	71	LIMITS (60 ~ 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

000023



METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E1J290222 Work Order #...: EM6QN1AA Matrix.....: SOLID
 MB Lot-Sample #: E1K010000-331
 Analysis Date...: 10/31/01 Prep Date.....: 10/31/01 Analysis Time...: 09:03
 Dilution Factor: 1 Prep Batch #: 1305331 Instrument ID..: MSD
 Analyst ID.....: 999998

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Dichlorodifluoromethane	ND	10	ug/kg	SW846 8260B
Chloromethane	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	10	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
1,2-Dibromoethane	ND	5.0	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Trichlorofluoromethane	ND	10	ug/kg	SW846 8260B
Acrolein	ND	100	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
Iodomethane	ND	10	ug/kg	SW846 8260B
Acetone	ND	25	ug/kg	SW846 8260B
Carbon disulfide	ND	5.0	ug/kg	SW846 8260B
Methylene chloride	ND	5.0	ug/kg	SW846 8260B
trans-1,2-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
Acrylonitrile	ND	100	ug/kg	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Vinyl acetate	ND	10	ug/kg	SW846 8260B
2,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
cis-1,2-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
2-Butanone	ND	25	ug/kg	SW846 8260B
Bromochloromethane	ND	5.0	ug/kg	SW846 8260B
Chloroform	ND	5.0	ug/kg	SW846 8260B
Tetrahydrofuran	ND	20	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260B
Benzene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Trichloroethene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260B
2-Chloroethyl vinyl ether	ND	10	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	25	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260B
2-Hexanone	ND	25	ug/kg	SW846 8260B

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000024



METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #....: E1J290222

Work Order #....: EM6QN1AA

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260B
Chlorobenzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	5.0	ug/kg	SW846 8260B
Styrene	ND	10	ug/kg	SW846 8260B
Bromoform	ND	5.0	ug/kg	SW846 8260B
Isopropylbenzene	ND	5.0	ug/kg	SW846 8260B
p-Isopropyltoluene	ND	5.0	ug/kg	SW846 8260B
Bromobenzene	ND	5.0	ug/kg	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B
1,2,3-Trichloropropane	ND	5.0	ug/kg	SW846 8260B
n-Propylbenzene	ND	5.0	ug/kg	SW846 8260B
2-Chlorotoluene	ND	5.0	ug/kg	SW846 8260B
4-Chlorotoluene	ND	5.0	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	SW846 8260B
tert-Butylbenzene	ND	5.0	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	SW846 8260B
sec-Butylbenzene	ND	5.0	ug/kg	SW846 8260B
1,3-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,4-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
n-Butylbenzene	ND	5.0	ug/kg	SW846 8260B
1,2-Dibromo-3-chloropropane	ND	10	ug/kg	SW846 8260B
1,2,4-Trichlorobenzene	ND	5.0	ug/kg	SW846 8260B
Hexachlorobutadiene	ND	5.0	ug/kg	SW846 8260B
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	SW846 8260B
t-Butanol	ND	100	ug/kg	SW846 8260B
Isopropyl ether	ND	10	ug/kg	SW846 8260B
Tert-amyl methyl ether	ND	10	ug/kg	SW846 8260B
Tert-butyl ethyl ether	ND	10	ug/kg	SW846 8260B
<u>SURROGATE</u>		<u>PERCENT</u>	<u>RECOVERY</u>	
		<u>RECOVERY</u>	<u>LIMITS</u>	
Bromofluorobenzene	81		(70 - 130)	
1,2-Dichloroethane-d4	87		(60 - 140)	
Toluene-d8	82		(70 - 130)	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

000025



METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: E1J290222

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: E1J300000-268 Prep Batch #...: 1303268						
Aluminum	ND	20.0	mg/kg	SW846 6010B	10/31/01	EM23T1AA
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Arsenic	ND	1.0	mg/kg	SW846 6010B	10/31/01	EM23T1AC
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Antimony	ND	6.0	mg/kg	SW846 6010B	10/31/01	EM23T1AD
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Barium	ND	2.0	mg/kg	SW846 6010B	10/31/01	EM23T1AE
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Cadmium	ND	0.50	mg/kg	SW846 6010B	10/31/01	EM23T1AF
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Chromium	0.10 B	1.0	mg/kg	SW846 6010B	10/31/01	EM23T1AG
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Beryllium	ND	0.50	mg/kg	SW846 6010B	10/31/01	EM23T1AH
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Lead	ND	0.50	mg/kg	SW846 6010B	10/31/01	EM23T1AJ
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Selenium	ND	0.50	mg/kg	SW846 6010B	10/31/01	EM23T1AK
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Silver	ND	1.0	mg/kg	SW846 6010B	10/31/01	EM23T1AL
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	
Cobalt	ND	5.0	mg/kg	SW846 6010B	10/31/01	EM23T1AM
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 021088	Instrument ID...: M01	

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000026



METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: E1J290222

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Copper	ND	2.5	mg/kg	SW846 6010B		10/31/01	EM23T1AN
		Dilution Factor: 1					
		Analysis Time..: 17:06		Analyst ID.....: 021088		Instrument ID..: M01	
Molybdenum	ND	4.0	mg/kg	SW846 6010B		10/31/01	EM23T1AP
		Dilution Factor: 1					
		Analysis Time..: 17:06		Analyst ID.....: 021088		Instrument ID..: M01	
Nickel	ND	4.0	mg/kg	SW846 6010B		10/31/01	EM23T1AQ
		Dilution Factor: 1					
		Analysis Time..: 17:06		Analyst ID.....: 021088		Instrument ID..: M01	
Thallium	ND	1.0	mg/kg	SW846 6010B		10/31/01	EM23T1AR
		Dilution Factor: 1					
		Analysis Time..: 17:06		Analyst ID.....: 021088		Instrument ID..: M01	
Vanadium	ND	5.0	mg/kg	SW846 6010B		10/31/01	EM23T1AT
		Dilution Factor: 1					
		Analysis Time..: 17:06		Analyst ID.....: 021088		Instrument ID..: M01	
Zinc	ND	2.0	mg/kg	SW846 6010B		10/31/01	EM23T1AU
		Dilution Factor: 1					
		Analysis Time..: 17:06		Analyst ID.....: 021088		Instrument ID..: M01	

MB Lot-Sample #: E1J300000-270 Prep Batch #...: 1303270

Mercury	ND	0.10	mg/kg	SW846 7471A	10/30-10/31/01	EM2331AA
		Dilution Factor: 1				
		Analysis Time..: 13:04		Analyst ID.....: 000023	Instrument ID..: M04	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

000027



LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #....: E1J290222 Work Order #....: EM2XL1AC Matrix.....: SOLID
 LCS Lot-Sample#: E1J300000-245
 Prep Date.....: 10/30/01 Analysis Date...: 10/30/01
 Prep Batch #: 1303245 Analysis Time...: 21:12
 Dilution Factor: 1 Instrument ID...: G02
 Analyst ID.....: 356074

<u>PARAMETER</u>	<u>SPIKE</u>	<u>MEASURED</u>	<u>PERCENT</u>	
	<u>AMOUNT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>
TPH (as Diesel)	250	233	mg/kg	93
SURROGATE			PERCENT	RECOVERY
Benzo(a)pyrene		84		LIMITS (60 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000028



LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #....: E1J290222 Work Order #....: EM28X1AC Matrix.....: SOLID
 LCS Lot-Sample#: E1J300000-279
 Prep Date.....: 10/29/01 Analysis Date...: 10/29/01
 Prep Batch #: 1303279 Analysis Time...: 15:57
 Dilution Factor: 1 Instrument ID...: G16
 Analyst ID.....: 001464

<u>PARAMETER</u>	SPIKE <u>AMOUNT</u>	MEASURED <u>AMOUNT</u>	PERCENT <u>UNITS</u>	PERCENT <u>RECOVERY</u>	METHOD
TPH (as Gasoline)	5.00	4.59	mg/kg	92	SW846 8015B
<u>SURROGATE</u>			PERCENT RECOVERY	RECOVERY LIMITS	
a,a,a-Trifluorotoluene (TFT)		101		(60 - 130)	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000029



LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E1J290222 Work Order #....: EM6QN1AC Matrix.....: SOLID
 LCS Lot-Sample#: E1K010000-331
 Prep Date.....: 10/31/01 Analysis Date...: 10/31/01
 Prep Batch #....: 1305331 Analysis Time...: 08:33
 Dilution Factor: 1 Instrument ID...: MSD
 Analyst ID.....: 999998

<u>PARAMETER</u>	<u>SPIKE</u>	<u>MEASURED</u>	<u>PERCENT</u>	<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>
1,1-Dichloroethene	50.0	54.0	ug/kg	108
Benzene	50.0	47.5	ug/kg	95
Trichloroethene	50.0	58.4	ug/kg	117
Toluene	50.0	45.7	ug/kg	91
Chlorobenzene	50.0	49.6	ug/kg	99

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Bromofluorobenzene	80	(70 - 130)
1,2-Dichloroethane-d4	93	(60 - 140)
Toluene-d8	84	(70 - 130)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000030



LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E1J290222

Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: E1J300000-268 Prep Batch #...: 1303268							
Aluminum	200	165	mg/kg	83	SW846 6010B	10/31/01	EM23T1AV
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Arsenic	200	183	mg/kg	91	SW846 6010B	10/31/01	EM23T1AW
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Antimony	50.0	42.2	mg/kg	84	SW846 6010B	10/31/01	EM23T1AX
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Barium	200	189	mg/kg	95	SW846 6010B	10/31/01	EM23T1A0
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Cadmium	5.00	4.75	mg/kg	95	SW846 6010B	10/31/01	EM23T1A1
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Chromium	20.0	20.2	mg/kg	101	SW846 6010B	10/31/01	EM23T1A2
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Beryllium	5.00	4.95	mg/kg	99	SW846 6010B	10/31/01	EM23T1A3
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Lead	50.0	44.1	mg/kg	88	SW846 6010B	10/31/01	EM23T1A4
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Selenium	200	170	mg/kg	85	SW846 6010B	10/31/01	EM23T1A5
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Silver	5.00	4.64	mg/kg	93	SW846 6010B	10/31/01	EM23T1A6
			Dilution Factor:	1			
			Analysis Time..:	17:12	Analyst ID.....: 021088	Instrument ID..: M01	

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000031



LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E1J290222

Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Cobalt	50.0	48.1	mg/kg	96	SW846 6010B	10/31/01	EM23T1A7
			Dilution Factor: 1				
			Analysis Time...: 17:12		Analyst ID.....: 021088	Instrument ID..: M01	
Copper	25.0	22.8	mg/kg	91	SW846 6010B	10/31/01	EM23T1A8
			Dilution Factor: 1				
			Analysis Time...: 17:12		Analyst ID.....: 021088	Instrument ID..: M01	
Molybdenum	100	94.6	mg/kg	95	SW846 6010B	10/31/01	EM23T1A9
			Dilution Factor: 1				
			Analysis Time...: 17:12		Analyst ID.....: 021088	Instrument ID..: M01	
Nickel	50.0	49.2	mg/kg	98	SW846 6010B	10/31/01	EM23T1CA
			Dilution Factor: 1				
			Analysis Time...: 17:12		Analyst ID.....: 021088	Instrument ID..: M01	
Thallium	200	174	mg/kg	87	SW846 6010B	10/31/01	EM23T1CC
			Dilution Factor: 1				
			Analysis Time...: 17:12		Analyst ID.....: 021088	Instrument ID..: M01	
Vanadium	50.0	49.4	mg/kg	99	SW846 6010B	10/31/01	EM23T1CD
			Dilution Factor: 1				
			Analysis Time...: 17:12		Analyst ID.....: 021088	Instrument ID..: M01	
Zinc	50.0	47.9	mg/kg	96	SW846 6010B	10/31/01	EM23T1CE
			Dilution Factor: 1				
			Analysis Time...: 17:12		Analyst ID.....: 021088	Instrument ID..: M01	
LCS Lot-Sample#: E1J300000-270 Prep Batch #...: 1303270							
Mercury	0.833	0.844	mg/kg	101	SW846 7471A	10/30-10/31/01	EM2331AC
			Dilution Factor: 1				
			Analysis Time...: 13:06		Analyst ID.....: 000023	Instrument ID..: M04	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

000032



LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #....: E1J290222 Work Order #....: EM2XL1AC Matrix.....: SOLID
LCS Lot-Sample#: E1J300000-245
Prep Date.....: 10/30/01 Analysis Date...: 10/30/01
Prep Batch #: 1303245 Analysis Time...: 21:12
Dilution Factor: 1 Instrument ID...: G02
Analyst ID.....: 356074

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	
TPH (as Diesel)	93	(60 - 130)	SW846 8015B
SURROGATE			
Benzo (a) pyrene	84	(60 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000033



LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #....: E1J290222 Work Order #....: EM28X1AC Matrix.....: SOLID
 LCS Lot-Sample#: E1J300000-279
 Prep Date.....: 10/29/01 Analysis Date...: 10/29/01
 Prep Batch #....: 1303279 Analysis Time..: 15:57
 Dilution Factor: 1 Instrument ID..: G16
 Analyst ID.....: 001464

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>METHOD</u>
TPH (as Gasoline)	92	(80 - 140)	SW846 8015B
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>LIMITS</u>
a,a,a-Trifluorotoluene (TFT)	101		(60 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000034



LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: E1J290222 Work Order #....: EM6QN1AC Matrix.....: SOLID
 LCS Lot-Sample#: E1K010000-331
 Prep Date.....: 10/31/01 Analysis Date...: 10/31/01
 Prep Batch #: 1305331 Analysis Time..: 08:33
 Dilution Factor: 1 Instrument ID..: MSD
 Analyst ID.....: 999998

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	
1,1-Dichloroethene	108	(60 - 150)	SW846 8260B
Benzene	95	(70 - 140)	SW846 8260B
Trichloroethene	117	(70 - 130)	SW846 8260B
Toluene	91	(70 - 130)	SW846 8260B
Chlorobenzene	99	(70 - 130)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Bromofluorobenzene	80	(70 - 130)
1,2-Dichloroethane-d4	93	(60 - 140)
Toluene-d8	84	(70 - 130)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000035



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: E1J290222

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	E1J300000-268	Prep Batch #...: 1303268			
Aluminum	83	(70 - 115)	SW846 6010B	10/31/01	EM23T1AV
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01
Arsenic	91	(75 - 115)	SW846 6010B	10/31/01	EM23T1AW
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01
Antimony	84	(75 - 115)	SW846 6010B	10/31/01	EM23T1AX
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01
Barium	95	(80 - 120)	SW846 6010B	10/31/01	EM23T1A0
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01
Cadmium	95	(80 - 120)	SW846 6010B	10/31/01	EM23T1A1
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01
Chromium	101	(85 - 120)	SW846 6010B	10/31/01	EM23T1A2
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01
Beryllium	99	(80 - 120)	SW846 6010B	10/31/01	EM23T1A3
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01
Lead	88	(80 - 120)	SW846 6010B	10/31/01	EM23T1A4
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01
Selenium	85	(70 - 115)	SW846 6010B	10/31/01	EM23T1A5
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01
Silver	93	(80 - 120)	SW846 6010B	10/31/01	EM23T1A6
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088		Instrument ID...: M01

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000036



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: E1J290222

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Cobalt	96	(80 - 120)	SW846 6010B	10/31/01	EM23T1A7
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Copper	91	(80 - 120)	SW846 6010B	10/31/01	EM23T1A8
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Molybdenum	95	(80 - 120)	SW846 6010B	10/31/01	EM23T1A9
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Nickel	98	(80 - 120)	SW846 6010B	10/31/01	EM23T1CA
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Thallium	87	(75 - 125)	SW846 6010B	10/31/01	EM23T1CC
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Vanadium	99	(80 - 120)	SW846 6010B	10/31/01	EM23T1CD
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088	Instrument ID..: M01	
Zinc	96	(80 - 120)	SW846 6010B	10/31/01	EM23T1CE
		Dilution Factor: 1			
		Analysis Time...: 17:12	Analyst ID.....: 021088	Instrument ID..: M01	
LCS Lot-Sample#:	E1J300000-270	Prep Batch #...:	1303270		
Mercury	101	(85 - 115)	SW846 7471A	10/30-10/31/01	EM2331AC
		Dilution Factor: 1			
		Analysis Time...: 13:06	Analyst ID.....: 000023	Instrument ID..: M04	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

000037



MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #....: E1J290222 Work Order #....: EM1HM1A2-MS Matrix.....: SOLID
 MS Lot-Sample #: G1J290153-007 EM1HM1A3-MSD
 Date Sampled...: 10/26/01 11:00 Date Received...: 10/29/01 10:25 MS Run #.....: 1303118
 Prep Date.....: 10/29/01 Analysis Date...: 10/29/01
 Prep Batch #....: 1303280 Analysis Time...: 20:23
 Dilution Factor: 1 Analyst ID....: 001464 Instrument ID...: G16

<u>PARAMETER</u>	<u>SAMPLE</u>	<u>SPIKE</u>	<u>MEASRD</u>	<u>PERCENT</u>			<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>	<u>RPD</u>	
TPH (as Gasoline)	ND	5.00	3.68	mg/kg	74	a	SW846 8015B
	ND	5.00	3.77	mg/kg	75	a	2.3 SW846 8015B
<u>SURROGATE</u>			<u>PERCENT</u>			<u>RECOVERY</u>	
a,a,a-Trifluorotoluene (TFT)			<u>RECOVERY</u>			<u>LIMITS</u>	
			92			(60 - 130)	
			92			(60 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

Low recovery due to confirmed matrix effect.

Low recovery due to confirmed matrix effect.

000038



MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E1J290222

Matrix.....: SOLID

Date Sampled...: 10/29/01 13:00 Date Received..: 10/29/01 21:00

PARAMETER	SAMPLE	SPIKE	MEASURED	PERCNT			PREPARATION~ ANALYSIS DATE	WORK ORDER #		
	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD				
MS Lot-Sample #: E1J290222-001 Prep Batch #: 1303268										
Aluminum										
	14900	200	15200	NC	mg/kg		SW846 6010B	10/31/01 EM1941A4		
	14900	200	16800	NC	mg/kg		SW846 6010B	10/31/01 EM1941A5		
			Dilution Factor:	1						
			Analysis Time..:	17:39			Instrument ID..: M01	Analyst ID.....: 021088		
			MS Run #.....:	1303111						
Arsenic										
	11.0	200	187	mg/kg	88		SW846 6010B	10/31/01 EM1941A6		
	11.0	200	189	mg/kg	89	1.1	SW846 6010B	10/31/01 EM1941A7		
			Dilution Factor:	1						
			Analysis Time..:	17:39			Instrument ID..: M01	Analyst ID.....: 021088		
			MS Run #.....:	1303111						
Antimony										
	ND	50.0	11.2	N	mg/kg	22	SW846 6010B	10/31/01 EM1941A8		
	ND	50.0	11.3	N	mg/kg	23	1.3 SW846 6010B	10/31/01 EM1941A9		
			Dilution Factor:	1						
			Analysis Time..:	17:39			Instrument ID..: M01	Analyst ID.....: 021088		
			MS Run #.....:	1303111						
Barium										
	111	200	281	mg/kg	85		SW846 6010B	10/31/01 EM1941CA		
	111	200	296	mg/kg	93	5.5	SW846 6010B	10/31/01 EM1941CC		
			Dilution Factor:	1						
			Analysis Time..:	17:39			Instrument ID..: M01	Analyst ID.....: 021088		
			MS Run #.....:	1303111						
Cadmium										
	0.16	5.00	4.31	mg/kg	83		SW846 6010B	10/31/01 EM1941CD		
	0.16	5.00	4.28	mg/kg	82	0.60	SW846 6010B	10/31/01 EM1941CE		
			Dilution Factor:	1						
			Analysis Time..:	17:39			Instrument ID..: M01	Analyst ID.....: 021088		
			MS Run #.....:	1303111						
Chromium										
	35.4	20.0	54.4	mg/kg	95		SW846 6010B	10/31/01 EM1941CF		
	35.4	20.0	61.2	N	mg/kg	129	12 SW846 6010B	10/31/01 EM1941CG		
			Dilution Factor:	1						
			Analysis Time..:	17:39			Instrument ID..: M01	Analyst ID.....: 021088		
			MS Run #.....:	1303111						

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000039



MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #....: E1J290222

Matrix.....: SOLID

Date Sampled...: 10/29/01 13:00 Date Received..: 10/29/01 21:00

PARAMETER	SAMPLE	SPIKE	MEASURED	PERCNT			PREPARATION-	WORK
	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD		
Beryllium								
	0.55	5.00	5.35	mg/kg	96		SW846 6010B	10/31/01 EM1941CH
	0.55	5.00	5.42	mg/kg	97	1.2	SW846 6010B	10/31/01 EM1941CJ
	Dilution Factor: 1							
	Analysis Time...: 17:39 Instrument ID...: M01							
	MS Run #.....: 1303111 Analyst ID.....: 021088							
Lead								
	4.4	50.0	48.0	mg/kg	87		SW846 6010B	10/31/01 EM1941CK
	4.4	50.0	47.9	mg/kg	87	0.11	SW846 6010B	10/31/01 EM1941CL
	Dilution Factor: 1							
	Analysis Time...: 17:39 Instrument ID...: M01							
	MS Run #.....: 1303111 Analyst ID.....: 021088							
Selenium								
	1.2	200	168	mg/kg	83		SW846 6010B	10/31/01 EM1941CM
	1.2	200	168	mg/kg	84	0.37	SW846 6010B	10/31/01 EM1941CN
	Dilution Factor: 1							
	Analysis Time...: 17:39 Instrument ID...: M01							
	MS Run #.....: 1303111 Analyst ID.....: 021088							
Silver								
	ND	5.00	4.40	mg/kg	88		SW846 6010B	10/31/01 EM1941CP
	ND	5.00	4.43	mg/kg	89	0.70	SW846 6010B	10/31/01 EM1941CQ
	Dilution Factor: 1							
	Analysis Time...: 17:39 Instrument ID...: M01							
	MS Run #.....: 1303111 Analyst ID.....: 021088							
Cobalt								
	9.7	50.0	55.7	mg/kg	92		SW846 6010B	10/31/01 EM1941CR
	9.7	50.0	54.5	mg/kg	90	2.1	SW846 6010B	10/31/01 EM1941CT
	Dilution Factor: 1							
	Analysis Time...: 17:39 Instrument ID...: M01							
	MS Run #.....: 1303111 Analyst ID.....: 021088							
Copper								
	21.7	25.0	44.3	mg/kg	90		SW846 6010B	10/31/01 EM1941CU
	21.7	25.0	47.7	mg/kg	104	7.2	SW846 6010B	10/31/01 EM1941CV
	Dilution Factor: 1							
	Analysis Time...: 17:39 Instrument ID...: M01							
	MS Run #.....: 1303111 Analyst ID.....: 021088							

(Continued on next page)

000040



MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #....: E1J290222

Matrix.....: SOLID

Date Sampled...: 10/29/01 13:00 Date Received...: 10/29/01 21:00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Molybdenum									
	2.9	100	90.2	mg/kg	87		SW846 6010B	10/31/01	EM1941CW
	2.9	100	90.9	mg/kg	88	0.77	SW846 6010B	10/31/01	EM1941CX
Dilution Factor: 1									
							Instrument ID...: M01		Analyst ID.....: 021088
							MS Run #.....: 1303111		
Nickel									
	29.0	50.0	74.1	mg/kg	90		SW846 6010B	10/31/01	EM1941C0
	29.0	50.0	76.3	mg/kg	95	2.9	SW846 6010B	10/31/01	EM1941C1
Dilution Factor: 1									
							Instrument ID...: M01		Analyst ID.....: 021088
							MS Run #.....: 1303111		
Thallium									
	1.4	200	179	mg/kg	89		SW846 6010B	10/31/01	EM1941C2
	1.4	200	180	mg/kg	89	0.67	SW846 6010B	10/31/01	EM1941C3
Dilution Factor: 1									
							Instrument ID...: M01		Analyst ID.....: 021088
							MS Run #.....: 1303111		
Vanadium									
	67.2	50.0	114	mg/kg	93		SW846 6010B	10/31/01	EM1941C4
	67.2	50.0	121	mg/kg	108	6.6	SW846 6010B	10/31/01	EM1941C5
Dilution Factor: 1									
							Instrument ID...: M01		Analyst ID.....: 021088
							MS Run #.....: 1303111		
Zinc									
	59.7	50.0	104	mg/kg	89		SW846 6010B	10/31/01	EM1941C6
	59.7	50.0	113	mg/kg	106	7.8	SW846 6010B	10/31/01	EM1941C7
Dilution Factor: 1									
							Instrument ID...: M01		Analyst ID.....: 021088
							MS Run #.....: 1303111		

MS Lot-Sample #: E1J290222-001 Prep Batch #....: 1303270

Mercury

ND	0.167	0.156	mg/kg	94		SW846 7471A	10/30-10/31/01	EM1941C8
ND	0.167	0.168	mg/kg	101	7.5	SW846 7471A	10/30-10/31/01	EM1941C9
Dilution Factor: 1								
Analysis Time...: 13:09								
Instrument ID...: M04								
Analyst ID.....: 000023								
MS Run #.....: 1303112								

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

N Spiked analyte recovery is outside stated control limits.

000041



MATRIX SPIKE SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #....: E1J290222 Work Order #....: EM1941A2-MS Matrix.....: SOLID
 MS Lot-Sample #: E1J290222-001 EM1941A3-MSD
 Date Sampled...: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1303101
 Prep Date.....: 10/30/01 Analysis Date...: 10/30/01
 Prep Batch #....: 1303245 Analysis Time...: 22:30
 Dilution Factor: 1 Analyst ID.....: 356074 Instrument ID...: G02

<u>PARAMETER</u>	<u>SAMPLE</u>	<u>SPIKE</u>	<u>MEASRD</u>	<u>PERCENT</u>			
	<u>AMOUNT</u>	<u>AMT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
TPH (as Diesel)	ND	250	228	mg/kg	91		SW846 8015B
	ND	250	229	mg/kg	92	0.37	SW846 8015B
<u>SURROGATE</u>			<u>PERCENT</u>			<u>RECOVERY</u>	
<u>Benzo(a)pyrene</u>			<u>RECOVERY</u>			<u>LIMITS</u>	
			82			(60 - 130)	
			82			(60 - 130)	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000042



MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E1J290222 Work Order #....: EM1941DA-MS Matrix.....: SOLID
 MS Lot-Sample #: E1J290222-001 EM1941DC-MSD
 Date Sampled...: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1305137
 Prep Date.....: 10/31/01 Analysis Date...: 10/31/01
 Prep Batch #....: 1305331 Analysis Time...: 12:36
 Dilution Factor: 1 Analyst ID.....: 999998 Instrument ID..: MSD

<u>PARAMETER</u>	<u>SAMPLE</u>	<u>SPIKE</u>	<u>MEASRD</u>	<u>PERCENT</u>			<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>	<u>RPD</u>	
1,1-Dichloroethene	ND	50.0	47.8	ug/kg	96		SW846 8260B
	ND	50.0	45.2	ug/kg	90	5.6	SW846 8260B
Benzene	ND	50.0	41.6	ug/kg	83		SW846 8260B
	ND	50.0	38.0	ug/kg	76	9.1	SW846 8260B
Trichloroethene	ND	50.0	51.3	ug/kg	103		SW846 8260B
	ND	50.0	46.8	ug/kg	94	9.1	SW846 8260B
Toluene	ND	50.0	40.5	ug/kg	81		SW846 8260B
	ND	50.0	36.9	ug/kg	74	9.3	SW846 8260B
Chlorobenzene	ND	50.0	44.2	ug/kg	88		SW846 8260B
	ND	50.0	40.2	ug/kg	80	9.4	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>		<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	
Bromofluorobenzene	82	(70 - 130)	
	80	(70 - 130)	
1,2-Dichloroethane-d4	95	(60 - 140)	
	93	(60 - 140)	
Toluene-d8	87	(70 - 130)	
	85	(70 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000043



MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #....: E1J290222 Work Order #....: EM1HM1A2-MS Matrix.....: SOLID
 MS Lot-Sample #: G1J290153-007 EM1HM1A3-MSD
 Date Sampled....: 10/26/01 11:00 Date Received...: 10/29/01 10:25 MS Run #.....: 1303118
 Prep Date.....: 10/29/01 Analysis Date...: 10/29/01
 Prep Batch #....: 1303280 Analysis Time...: 20:23
 Dilution Factor: 1 Analyst ID.....: 001464 Instrument ID..: G16

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>LIMITS</u>	
TPH (as Gasoline)	74 a	(80 - 140)		SW846 8015B
	75 a	(80 - 140)	2.3	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
a,a,a-Trifluorotoluene (TFT)	92	(60 - 130)
	92	(60 - 130)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

Low recovery due to confirmed matrix effect.

Low recovery due to confirmed matrix effect.

000044



MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: E1J290222 Matrix.....: SOLID
Date Sampled...: 10/29/01 13:00 Date Received..: 10/29/01 21:00

PARAMETER	PERCENT	RECOVERY	RPD	METHOD	PREPARATION-	WORK
	RECOVERY	LIMITS	RPD		ANALYSIS DATE	ORDER #
MS Lot-Sample #: E1J290222-001 Prep Batch #: 1303268						
Aluminum	NC	(70 - 115)		SW846 6010B	10/31/01	EM1941A4
	NC	(70 - 115)	(0-25)	SW846 6010B	10/31/01	EM1941A5
		Dilution Factor: 1				
		Analysis Time...: 17:39		Instrument ID...: M01		Analyst ID.....: 021088
		MS Run #.....: 1303111				
Arsenic	88	(75 - 115)		SW846 6010B	10/31/01	EM1941A6
	89	(75 - 115) 1.1	(0-25)	SW846 6010B	10/31/01	EM1941A7
		Dilution Factor: 1				
		Analysis Time...: 17:39		Instrument ID...: M01		Analyst ID.....: 021088
		MS Run #.....: 1303111				
Antimony	22 N	(75 - 115)		SW846 6010B	10/31/01	EM1941A8
	23 N	(75 - 115) 1.3	(0-25)	SW846 6010B	10/31/01	EM1941A9
		Dilution Factor: 1				
		Analysis Time...: 17:39		Instrument ID...: M01		Analyst ID.....: 021088
		MS Run #.....: 1303111				
Barium	85	(80 - 120)		SW846 6010B	10/31/01	EM1941CA
	93	(80 - 120) 5.5	(0-25)	SW846 6010B	10/31/01	EM1941CC
		Dilution Factor: 1				
		Analysis Time...: 17:39		Instrument ID...: M01		Analyst ID.....: 021088
		MS Run #.....: 1303111				
Cadmium	83	(80 - 120)		SW846 6010B	10/31/01	EM1941CD
	82	(80 - 120) 0.60	(0-25)	SW846 6010B	10/31/01	EM1941CE
		Dilution Factor: 1				
		Analysis Time...: 17:39		Instrument ID...: M01		Analyst ID.....: 021088
		MS Run #.....: 1303111				
Chromium	95	(85 - 120)		SW846 6010B	10/31/01	EM1941CF
	129 N	(85 - 120) 12	(0-25)	SW846 6010B	10/31/01	EM1941CG
		Dilution Factor: 1				
		Analysis Time...: 17:39		Instrument ID...: M01		Analyst ID.....: 021088
		MS Run #.....: 1303111				
Beryllium	96	(80 - 120)		SW846 6010B	10/31/01	EM1941CH
	97	(80 - 120) 1.2	(0-25)	SW846 6010B	10/31/01	EM1941CJ
		Dilution Factor: 1				
		Analysis Time...: 17:39		Instrument ID...: M01		Analyst ID.....: 021088
		MS Run #.....: 1303111				

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000045



MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: E1J290222

Matrix.....: SOLID

Date Sampled...: 10/29/01 13:00 Date Received..: 10/29/01 21:00

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Lead	87	(80 - 120)			SW846 6010B	10/31/01	EM1941CK
	87	(80 - 120) 0.11 (0-25)			SW846 6010B	10/31/01	EM1941CL
Selenium	83	(70 - 115)			SW846 6010B	10/31/01	EM1941CM
	84	(70 - 115) 0.37 (0-25)			SW846 6010B	10/31/01	EM1941CN
Silver	88	(80 - 120)			SW846 6010B	10/31/01	EM1941CP
	89	(80 - 120) 0.70 (0-25)			SW846 6010B	10/31/01	EM1941CQ
Cobalt	92	(80 - 120)			SW846 6010B	10/31/01	EM1941CR
	90	(80 - 120) 2.1 (0-25)			SW846 6010B	10/31/01	EM1941CT
Copper	90	(80 - 120)			SW846 6010B	10/31/01	EM1941CU
	104	(80 - 120) 7.2 (0-25)			SW846 6010B	10/31/01	EM1941CV
Molybdenum	87	(80 - 120)			SW846 6010B	10/31/01	EM1941CW
	88	(80 - 120) 0.77 (0-25)			SW846 6010B	10/31/01	EM1941CX
Nickel	90	(80 - 120)			SW846 6010B	10/31/01	EM1941C0
	95	(80 - 120) 2.9 (0-25)			SW846 6010B	10/31/01	EM1941C1

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000046



MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: E1J290222 Matrix.....: SOLID
 Date Sampled...: 10/29/01 13:00 Date Received...: 10/29/01 21:00

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
						<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Thallium	89	(75 - 125)			SW846 6010B	10/31/01	EM1941C2
	89	(75 - 125)	0.67	(0-25)	SW846 6010B	10/31/01	EM1941C3
		Dilution Factor: 1					
		Analysis Time..: 17:39				Instrument ID..: M01	Analyst ID.....: 021088
		MS Run #.....: 1303111					
Vanadium	93	(80 - 120)			SW846 6010B	10/31/01	EM1941C4
	108	(80 - 120)	6.6	(0-25)	SW846 6010B	10/31/01	EM1941C5
		Dilution Factor: 1					
		Analysis Time..: 17:39				Instrument ID..: M01	Analyst ID.....: 021088
		MS Run #.....: 1303111					
Zinc	89	(80 - 120)			SW846 6010B	10/31/01	EM1941C6
	106	(80 - 120)	7.8	(0-25)	SW846 6010B	10/31/01	EM1941C7
		Dilution Factor: 1					
		Analysis Time..: 17:39				Instrument ID..: M01	Analyst ID.....: 021088
		MS Run #.....: 1303111					

MS Lot-Sample #: E1J290222-001 Prep Batch #...: 1303270

Mercury	94	(80 - 120)			SW846 7471A	10/30-10/31/01	EM1941C8
	101	(80 - 120)	7.5	(0-20)	SW846 7471A	10/30-10/31/01	EM1941C9
		Dilution Factor: 1					
		Analysis Time..: 13:09				Instrument ID..: M04	Analyst ID.....: 000023
		MS Run #.....: 1303112					

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

N Spiked analyte recovery is outside stated control limits.

000047



MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #....: E1J290222 Work Order #....: EM1941A2-MS Matrix.....: SOLID
 MS Lot-Sample #: E1J290222-001 EM1941A3-MSD
 Date Sampled...: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1303101
 Prep Date.....: 10/30/01 Analysis Date...: 10/30/01
 Prep Batch #....: 1303245 Analysis Time...: 22:30
 Dilution Factor: 1 Analyst ID....: 356074 Instrument ID...: G02

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	
TPH (as Diesel)	91	(60 - 130)		SW846 8015B
	92	(60 - 130)	0.37	(0-35) SW846 8015B
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		<u>RECOVERY</u>
Benzo (a) pyrene		<u>RECOVERY</u>		<u>LIMITS</u>
	82			(60 - 130)
	82			(60 - 130)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: E1J290222 Work Order #....: EM1941DA-MS Matrix.....: SOLID
 MS Lot-Sample #: E1J290222-001 EM1941DC-MSD
 Date Sampled...: 10/29/01 13:00 Date Received...: 10/29/01 21:00 MS Run #.....: 1305137
 Prep Date.....: 10/31/01 Analysis Date...: 10/31/01
 Prep Batch #....: 1305331 Analysis Time...: 12:36
 Dilution Factor: 1 Analyst ID.....: 999998 Instrument ID...: MSD

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>LIMITS</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	<u>METHOD</u>
1,1-Dichloroethene	96	(60 - 150)			SW846 8260B
	90	(60 - 150)	5.6	(0-30)	SW846 8260B
Benzene	83	(70 - 140)			SW846 8260B
	76	(70 - 140)	9.1	(0-30)	SW846 8260B
Trichloroethene	103	(70 - 130)			SW846 8260B
	94	(70 - 130)	9.1	(0-30)	SW846 8260B
Toluene	81	(70 - 130)			SW846 8260B
	74	(70 - 130)	9.3	(0-30)	SW846 8260B
Chlorobenzene	88	(70 - 130)			SW846 8260B
	80	(70 - 130)	9.4	(0-30)	SW846 8260B
<u>SURROGATE</u>					
<u>PERCENT</u>					
Bromofluorobenzene	RECOVERY	LIMITS			
	82	(70 - 130)			
	80	(70 - 130)			
1,2-Dichloroethane-d4	95	(60 - 140)			
	93	(60 - 140)			
Toluene-d8	87	(70 - 130)			
	85	(70 - 130)			

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

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SEVERN
TRENT
SERVICES

Subcontract Reports

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

LABORATORY REPORT

Prepared For: STL Los Angeles
1721 S. Grand Avenue
Santa Ana, CA 92705

Attention: Diane Suzuki
Project: E1J290222

Sampled: 10/29/01
Received: 10/30/01
Reported: 11/02/01

*This laboratory report is confidential and is intended for the sole use of
Del Mar Analytical and its client. This entire report was reviewed and approved for release.*

CA ELAP Certificate #1169
AZ DHS License #AZ0062


Del Mar Analytical, Colton
Clifton J. Kiser
Project Manager

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CKK0003 <Page 1 of 5>





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 9830 South 51st St, Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

STL Los Angeles
 1721 S. Grand Avenue
 Santa Ana, CA 92705
 Attention: Diane Suzuki

Client Project ID: E1J290222

Report Number: CKK0003

Sampled: 10/29/01
 Received: 10/30/01

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Method	Reporting Batch	Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
				ug/kg	ug/kg			
Sample ID: CKK0003-01 (SOURCE-AA-102901-1-10' - Soil)								
Acenaphthene	EPA 8310	C1K0113	50	ND	1	11/1/01	11/2/01	
Acenaphthylene	EPA 8310	C1K0113	200	ND	1	11/1/01	11/2/01	
Anthracene	EPA 8310	C1K0113	2.0	ND	1	11/1/01	11/2/01	
Benzo(a)anthracene	EPA 8310	C1K0113	2.0	ND	1	11/1/01	11/2/01	
Benzo(a)pyrene	EPA 8310	C1K0113	2.0	ND	1	11/1/01	11/2/01	
Benzo(b)fluoranthene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Benzo(g,h,i)perylene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Benzo(k)fluoranthene	EPA 8310	C1K0113	2.0	ND	1	11/1/01	11/2/01	
Chrysene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Dibenz(a,h)anthracene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Fluoranthene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Fluorene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Naphthalene	EPA 8310	C1K0113	40	ND	1	11/1/01	11/2/01	
Phenanthrene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Pyrene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
<i>Surrogate: 2-Methylnanthracene (35-115%)</i>						72.4 %		
Sample ID: CKK0003-02 (SOURCE-AA-102901-2-20' - Soil)								
Acenaphthene	EPA 8310	C1K0113	50	ND	1	11/1/01	11/2/01	
Acenaphthylene	EPA 8310	C1K0113	200	ND	1	11/1/01	11/2/01	
Anthracene	EPA 8310	C1K0113	2.0	ND	1	11/1/01	11/2/01	
Benzo(a)anthracene	EPA 8310	C1K0113	2.0	ND	1	11/1/01	11/2/01	
Benzo(a)pyrene	EPA 8310	C1K0113	2.0	ND	1	11/1/01	11/2/01	
Benzo(b)fluoranthene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Benzo(g,h,i)perylene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Benzo(k)fluoranthene	EPA 8310	C1K0113	2.0	ND	1	11/1/01	11/2/01	
Chrysene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Dibenz(a,h)anthracene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Fluoranthene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Fluorene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Indeno(1,2,3-cd)pyrene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Naphthalene	EPA 8310	C1K0113	40	ND	1	11/1/01	11/2/01	
Phenanthrene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
Pyrene	EPA 8310	C1K0113	5.0	ND	1	11/1/01	11/2/01	
<i>Surrogate: 2-Methylnanthracene (35-115%)</i>						71.9 %		

Del Mar Analytical, Colton
 Clifton J. Kiser
 Project Manager

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CKK0003 <Page 2 of 5>





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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851

STL Los Angeles
1721 S. Grand Avenue
Santa Ana, CA 92705
Attention: Diane Suzuki

Client Project ID: E1J290222

Report Number: CKK0003

Sampled:10/29/01

Received:10/30/01

METHOD/BLANK/QC DATA

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Data Limit Qualifiers
<u>Batch: C1K0113 Extracted: 11/01/01</u>								
Blank Analyzed: 11/01/01 (C1K0113-BLK1)								
Acenaphthene	ND	50	ug/kg					
Acenaphthylene	ND	200	ug/kg					
Anthracene	ND	2.0	ug/kg					
Benzo(a)anthracene	ND	2.0	ug/kg					
Benzo(a)pyrene	ND	2.0	ug/kg					
Benzo(b)fluoranthene	ND	5.0	ug/kg					
Benzo(g,h,i)perylene	ND	5.0	ug/kg					
Benzo(k)fluoranthene	ND	2.0	ug/kg					
Chrysene	ND	5.0	ug/kg					
Dibenzo(a,h)anthracene	ND	5.0	ug/kg					
Fluoranthene	ND	5.0	ug/kg					
Fluorene	ND	5.0	ug/kg					
Indeno(1,2,3-cd)pyrene	ND	5.0	ug/kg					
Naphthalene	ND	40	ug/kg					
Phenanthrene	ND	5.0	ug/kg					
Pyrene	ND	5.0	ug/kg					
Surrogate: 2-Methylanthracene	5.34		ug/kg	8.00		66.8	35-115	
LCS Analyzed: 11/02/01 (C1K0113-BS1)								
Acenaphthene	165	50	ug/kg	320		51.6	45-115	M-NR
Acenaphthylene	461	200	ug/kg	640		72.0	50-115	
Anthracene	18.1	2.0	ug/kg	32.0		56.6	55-115	
Benzo(a)anthracene	23.3	2.0	ug/kg	32.0		72.8	65-115	
Benzo(a)pyrene	18.5	2.0	ug/kg	32.0		57.8	55-115	
Benzo(b)fluoranthene	43.4	5.0	ug/kg	64.0		67.8	65-115	
Benzo(g,h,i)perylene	46.9	5.0	ug/kg	64.0		73.3	60-115	
Benzo(k)fluoranthene	21.9	2.0	ug/kg	32.0		68.4	65-115	
Chrysene	22.6	5.0	ug/kg	32.0		70.6	65-115	
Dibenzo(a,h)anthracene	45.6	5.0	ug/kg	64.0		71.2	60-115	
Fluoranthene	44.4	5.0	ug/kg	64.0		69.4	65-115	
Fluorene	36.9	5.0	ug/kg	64.0		57.7	55-115	
Indeno(1,2,3-cd)pyrene	21.2	5.0	ug/kg	32.0		66.2	55-115	
Naphthalene	212	40	ug/kg	320		66.2	45-115	
Phenanthrene	21.4	5.0	ug/kg	32.0		66.9	55-120	
Pyrene	25.2	5.0	ug/kg	32.0		78.8	55-115	

Del Mar Analytical, Colton
Clifton J. Kiser
Project Manager

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0861

STL Los Angeles
1721 S. Grand Avenue
Santa Ana, CA 92705
Attention: Diane Suzuki

Client Project ID: E1J290222

Report Number: CKK0003

Sampled: 10/29/01

Received: 10/30/01

METHOD BLANK/QC DATA

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 8310)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
Batch: C1K0113 Extracted; 11/01/01										
LCS Analyzed: 11/02/01 (C1K0113-BS1)										M-NR
Surrogate: 2-Methylnanthracene	9.04		ug/kg	8.00			113	35-115		

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Clifton J. Kiser
Project Manager

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STL Los Angeles
1721 S. Grand Avenue
Santa Ana, CA 92705
Attention: Diane Suzuki

Client Project ID: E1J290222
Report Number: CKK0003

Sampled:10/29/01
Received:10/30/01

DATA QUALIFIERS AND DEFINITIONS

- M-NR** No results were reported for the MS/MSD. The sample used for the MS/MSD required dilution due to the sample matrix. Because of this, the spike compounds were diluted below the detection limit.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

Del Mar Analytical, Colton
Clifton J. Kiser
Project Manager

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CKK0003 <Page 5 of 5>



**Chain of
Custody Record**

STL-4124 (0700)

**SEVERN
TRENT
SERVICES**
Severn Trent Laboratories, Inc.

Client STL LA			Project Manager <i>Shane from KI</i>	Date 10/29/01	Chain of Custody Number 049127
Address 1721 S Grand Ave			Telephone Number (Area Code)/Fax Number (714) 258 8610 Ext 309	Lab Number E17290222	Page 1 of 1
City Santa Ana	State CA	Zip Code 92707	Site Contact	Lab Contact	Analysis (Attach list if more space is needed)
Project Name and Location (State)			Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			Matrix	Containers & Preservatives	Special Instructions/ Conditions of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	<i>10/29/01</i>	<i>1700</i>	
SOURCE - AA - 102901-1-10 ¹			X	X	
SOURCE - AA - 102901-2-20			X	X	
0000056					
Possible Hazard Identification			Sample Disposal		
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months
(A fee may be assessed if samples are retained longer than 3 months)					
Turn Around Time Required			QC Requirements (Specify)		
<input type="checkbox"/> 24 Hours	<input checked="" type="checkbox"/> 48 Hours	<input type="checkbox"/> 7 Days	<input type="checkbox"/> 14 Days	<input type="checkbox"/> 21 Days	<input type="checkbox"/> Other
1. Relinquished By <i>Parcels to follow</i>			Date 10/29/01	Time 9:20	1. Received By <i>R. L. Herstera</i>
2. Relinquished By <i>R. L. Herstera</i>			Date 10-30-01	Time 18:00	2. Received By <i>Shane O'Dowd</i>
3. Relinquished By <i>Shane O'Dowd</i>			Date 10-30-01	Time 19:30	3. Received By <i>J. M. S.</i>
Comments					

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

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